What Is Claimed Is:

1. A dynamometer element having a bolt (2) on which a diaphragm (3) is mounted, the diaphragm (3) being surrounded by a sleeve (1), to which a force component to be measured is applied perpendicularly to the longitudinal direction of the bolt (2), the sleeve (1) being spaced from the bolt (2) in such a way that the diaphragm (3) is strained as a function of the force component, a sensor system (14 through 16) for measuring the strain being provided on the diaphragm (3).

2. The dynamometer element as recited in Claim 1,
wherein the dynamometer element having the bolt (2) is designed in one piece with the diaphragm (3) and the sleeve (1).

3. The dynamometer element as recited in Claim 1 or 2,
wherein the dynamometer element is designed as a screw (17).

4. The dynamometer element as recited in one of the preceding claims,
wherein the sensor system (14 through 16) has strain gauges for measuring the strain.

5. The dynamometer element as recited in Claim 1,
wherein the sensor system has piezoresistive elements for measuring the strain.

6. The dynamometer element as recited in Claim 4 or 5,
wherein the sensor system is applied using thin-film technology.

7. The dynamometer element as recited in Claim 4, 5, or 6,
wherein the sensor system has a Wheatstone bridge as a circuit.

8. The dynamometer element as recited in Claim 7,
wherein the Wheatstone bridge has two resistors in an area (12b, 13a) under compressive stress and two further resistors in an area (12a, 13b) under tensile stress.

9. The dynamometer element as recited in Claim 7,
wherein the Wheatstone bridge has a first resistor in an area under compressive stress, a second resistor in an area under tensile stress, and two further resistors in a low-strain area.

10. The dynamometer element as recited in one of the preceding claims, wherein a rocker (22, 24) is provided for introducing the force.

11. The dynamometer element as recited in Claim 10, wherein a ball socket (25) is provided with the rocker for decoupling the moments.

12. The dynamometer element as recited in one of the preceding claims, wherein a spacer ring (20) is provided on the bolt for limiting the force.

13. The dynamometer element as recited in Claim 1, wherein at least one joint is provided in the dynamometer element for connection.

14. The dynamometer element as recited in Claim 13, wherein, in the case of two joints, the joints are offset with respect to one another.

15. The dynamometer element as recited in one of the preceding claims, wherein the dynamometer element is designed such that inward-pointing free spaces (200) are provided to define strain-sensitive areas in the diaphragm (3).

16. The dynamometer element as recited in Claim 15, wherein the free spaces (200) are circular recesses.

17. The dynamometer element as recited in Claim 15, wherein the recess (200) has a first circle segment shape (201) and a second circle segment shape (202), the first circle segment shape (201) pointing to the sleeve (1) and the second circle segment shape (202) pointing to the bolt (2), and the first and second circle segment shapes (201, 202) being configured differently.

18. The dynamometer element as recited in Claim 17, wherein the first circle segment shape (201) has a smaller radius than the second circle segment shape (202).

19. The dynamometer element as recited in Claim 17, wherein the circle segment shapes have a parabolic or spline shape.

20. The dynamometer element as recited in one of Claims 13 or 14, wherein the joints have an annular shape and thus define an annular diaphragm.

21. The dynamometer element as recited in one of the preceding claims, wherein the diaphragm (3) is made of a high-strength steel.

22. The dynamometer element as recited in one of the preceding claims, wherein the dynamometer element is essentially axially symmetric.